NOTE XXXIV.

SYNOPSIS AND ALPHABETICAL LIST OF THE DESCRIBED SPECIES OF THE COLEOPTEROUS GENUS HELOTA McL.

BY

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SYNOPSIS OF SPECIES. 1)

- I. Base of elytra coloured as apex.
  - A. Elytra with four convex flavous spots.
    - *a.* Pronotum rugose, with raised patches.
      - *α.* Elytra regularly punctate-striate all over.
        - ×. Upper surface bright metallic green, flavous elytral spots large.
          - *. Apical half of antennae pitchy black; narrowed front-portion of head finely punctured . . . . *Vigorsii.* 2)
          - **. Antennae entirely pale fulvous; narrowed front-portion of head strongly punctured . . . . *scintillans.*
        - ××. Upper surface coppery red or dark bronze, flavous elytral spots small.
          - †. Upper surface and elytral epipleurae bronze coloured.
            - *. Sides of prothorax reddish testaceous. *Feae.*
            - **. „ „ „ coloured as the disc. *Vandepolli.*
          - ††. Upper surface and elytral epipleurae coppery red.

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1) For a summary of the principal divisions with reference to the pages, see p. 232.

2) As to the author-names I refer to the alphabetical list of species.

•. Lateral streaks of pronotum irregularly confluently punctured, leaving some smooth interspaces. — ♂. Apices of elytra conjointly rounded, with a spine at the suture. — ♀. Apices of elytra not or slightly prolonged.

ɔ. ♂. Anterior tibiae with a small compressed dilatation a little *before* the apex of the inner margin or without it. — ♀. Apices of elytra slightly prolonged, last ventral segment rounded posteriorly.

». ♂. Anterior tibiae with a small dilatation, hindlegs of normal length. — ♀. Apices of elytra dehiscent. *Servillei.*

♂. Anterior tibiae without dilatation, hindlegs very slender and elongate. — ♀. Apices of elytra not dehiscent . . . . *longipes.*

ɔɔ. ♂. Anterior tibiae with a very conspicuous compressed dilatation *at* the end of the inner margin. — ♀. Apices of elytra conjointly rounded, last ventral segment broadly truncate posteriorly. . . . . *Fairmairei.*

••. Lateral streaks of pronotum regularly densely punctured, without smooth interspaces. — ♂. Apices of elytra faintly bidentate near the suture (about as in *Vigorsii*). — ♀. Apices of elytra acutely prolonged, last ventral segment truncate in a bisinuate manner. *Oberthüri.*

β. Elytra punctured in rows near the suture, the remaining portion irregularly punctured; flavous elytral spots small.

§. Space between the suture and the line which unites the centres of the flavous spots provided with four rather regular rows of punctures.

*. Outer half of elytra more or less punctured in rows, its sculpture not strongly contrasting with that of the inner half. Abdomen dark coloured in the middle, the margins rufous. — ♂. Last ventral segment without tomentose impression, its apical margin faintly trisinuate. — ♀. Last ventral segment triangular with rounded tip. . . . . . *Kolbei.*

**. Outer half of elytra rugose in consequence of the extremely dense punctuation, its sculpture therefore strongly contrasting with that of the inner half. Abdomen rufous. — ♂. Last ventral segment with a tomentose impression. — ♀. Last ventral segment strongly transverse.

». 3rd and 5th interstices (the sutural one reckoned as the 1st) continuous, here and there with a large puncture. — ♂. Anterior tibiae with a compressed dilatation at the end of the inner margin. — ♀. Apices of elytra pointed, last ventral segment with an impression at the apex . . . . *gemmata.*

»». 3rd and 5th interstices divided by the often coalescing bordering striae into detached ovate portions. — ♂. Anterior tibiae without dilatation at the end of the inner margin. — ♀. Apices of elytra separately rounded, last ventral segment without impression at the apex . . . . *fulviventris.*

§§. The two innermost striae only rather regular.

Θ. Raised thoracical patches impunctate or nearly so. (Large or moderately large species: $18^{1}/_{2}$ mm. — $12^{1}/_{2}$ mm.).

ↄ. ♀. Apices of elytra rather bluntly prolonged; last ventral segment as long as the 3rd and 4th taken together. — ♂. Middle of metasternum with a tomentose spot, sutural spine very distinct . . . . *Gorhami.*

ↄↄ. ♀. Apices of elytra very acutely prolonged; last ventral segment decidedly shorter than the 3rd and 4th taken together. — (♂ unknown). *caudata.*

ΘΘ. Raised thoracical patches punctured. (Smaller species: $8^{1}/_{2}$ mm. — $9\ ^{1}/_{4}$ mm.).

×. Sides of prothorax finely crenulate (each with 12—14 crenulations); under surface and legs dark pitchy brown . . . . *sinensis.*

××. Sides of prothorax coarsely crenulate (each with 8 or 9 crenulations); middle of sterna and the abdomen pale fulvous; femora pale fulvous with green tips, tibiae and tarsi alternately pitchy and pale fulvous. *thibetana.*

b. Pronotum more finely and evenly punctured, without raised patches.

α. Prosternum entirely fulvous.

×. Legs partly fulvous, partly metallic green.

†. Tips of femora and the tibiae metallic green.

*. Anterior and posterior elytral spots situated between the same striae, viz. between the 3rd and 7th . . . . *Guerinii.*

**. Anterior and posterior elytral spots situated between different striae.

›. Anterior spots between the 4th and 6th, the posterior ones between the 3rd and 6th striae . . . . *curvipes.*

››. Anterior spots between the 4th and 7th, the posterior ones between the 3rd and 7th striae . . . . *ocellata.*

›››. Anterior spots between the 4th and 7th, the posterior ones between the 3rd and 6th striae.

». Outer margin of elytra entire. . . *Dohertyi.*

»». Apical third of outer margin of elytra serrulate . . . . *serratipennis.*

††. Tips of femora metallic green; tibiae pitchy, marked with brown-red on the apical half; the spots on the elytra between the 3rd and 6th striae . . . . *rotundata.*

××. Legs fulvous, without metallic green, and, especially in the ♂, very slender and elongate. . . . . *laevigata.*

β. Prosternum fulvous in the middle, lateral portions metallic green.

§. Tibiae entirely metallic green.

*. Shape narrow (long. $7\frac{1}{2}$—$8\frac{1}{2}$ mm.; lat. $2\frac{1}{4}$—$2\frac{1}{2}$ mm.); coppery bronze; anterior elytral spots between the 4th and 6th, the posterior ones between the 3rd and 6th striae. . . . . *cereopunctata.*

**. Shape broader (long. 8 mm.; lat. 3 mm.); bronze green; elytral spots between the 3rd and 6th striae. . . . . *brevis.*

§§. Tibiae metallic green at the base, the rest fulvous.

Θ. Anterior and posterior elytral spots between the same striae, viz. between the 3rd and 7th.

×. Prothorax quadrate. . . . . *Gestroi.*

××. » narrowed to the front (trapezoidal).

ɔ. Length not quite 7 mm. . . . . *notata.*
ɔɔ. » 8½—9 mm. . . . . *Boysii.* (♂). *dubia.* (♀).
ΘΘ. Anterior and posterior elytral spots between different striae.
*. Anterior spots between the 4th and 7th, posterior ones between the 3rd and 7th striae . . . . *pusilla.*
**. Anterior spots between the 3rd and 7th, posterior ones between the 3rd and 8th striae 1). . . . . *culta.*
B. Elytra without flavous spots. . . . . *immaculata.*
II. Base of elytra fulvous, apex metallic green or black.
A. Apical portion of elytra metallic green; pronotum entirely fulvous. (Asiatic species).
a. Flattened lateral margins of elytra narrow. *semifulva.*
b. » » » » » broad.
α. Tarsi fulvous . . . . *fulvitarsis.*
β. » dark pitchy brown . . . . *difficilis.*
B. Apical portion of elytra black; pronotum fulvous at the sides, black along the middle. (African species).
a. Elytral interstices flat.
α. Fulvous basal half of elytra with an elongate black spot between the 3rd and 4th striae . . . . *africana.*
β. Fulvous basal half of elytra without black spots. . . . . *guineensis.*
b. Elytral interstices alternately costate. . . . *costata.*

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1) Mr. Sidney Olliff erroneously ascribes eight rows of punctured striae to each elytron. *Culta* however has, like the other species, ten striae on each elytron.

ALPHABETICAL LIST OF SPECIES.

Helota

MacLeay. *Annulosa javanica*, 1825, *p.* 42; *Ed. Lequien*, 1833, *p.* 151.

africana Olliff. *Ann. a. Mag. Nat. Hist.* (5) XIII, 1884, *p.* 479. — *Aid Ident. Ins. t.* 153, *f.* 3.	Angola.
Boysii Rits. *Notes Leyd. Mus.* XI, 1889, *p.* 189.	India.
brevis Rits. *Notes Leyd. Mus.* XIII, 1891, *p.* 199.	Borneo.
caudata Rits. *Notes Leyd. Mus.* XI, 1889, *p.* 102.	China.
cereo-punctata Lewis. *Ent. Mo. Mag.* XVII, 1881, *p.* 255. — *Aid Ident. Ins. t.* 133, *f.* 1.	Japan.
costata Rits. *Notes Leyd. Mus.* XI, 1889, *p.* 108.	Zanzibar.
culta Olliff. *Cist. Ent.* III, 1883, *pp.* 55 *and* 101; *t.* 3, *f.* 2.	India bor.
curvipes Oberth. *Coleopt. Novit.* I, 1883, *p.* 60. — Rits. *Notes Leyd. Mus.* XI, 1889, *p.* 105. — id. *Ann. Mus. Civ. Genova*, XXX, 1891, *p.* 889.	Himalaya.
difficilis Rits. *Ann. Mus. Civ. Genova*, XXX, 1891, *p.* 896.	Burma.
Dohertyi Rits. *Ann. Mus. Civ. Genova*, XXX, 1891, *p.* 898.	„
dubia Rits. *Ann. Mus. Civ. Genova*, XXX, 1891, *p.* 901.	„
Fairmairei Rits. *Notes Leyd. Mus.* XI, 1889, *p.* 101.	Sikkim.
Feae Rits. *Ann. Mus. Civ. Genova*, XXX, 1891, *p.* 886.	Burma.
fulvitarsis Rits. *Notes Leyd. Mus.* XI, 1889, *p.* 107.	Darjeeling.

fulviventris Kolbe. *Arch. f. Naturgesch.* LII, I, 1886, *p.* 182; *t.* 11, *f.* 25. — Rits. *Notes Leyd. Mus.* XI, 1889, *p.* 104.	Korea.
gemmata Gorh. *Trans. Ent. Soc. London*, 1874, *p.* 448 (pars) [1]. — Reitter. *Verhandl. naturf. Ver. Brünn*, XIV, 1876, *p.* 65; *t.* 1, *f.* 1—5. — Harold. *Abhandl. naturw. Ver. Bremen*, V, 1876, *p.* 119. — Rits. *Notes Leyd. Mus.* XI, 1889, *p.* 104. — id. *Ann. Mus. Civ. Genova*, XXX, 1891, *p.* 888.	Japan
Gestroi Rits. *Ann. Mus. Civ. Genova*, XXX, 1891, *pp.* 893 *and* 900.	Burma.
Gorhami Olliff. *Cist. Ent.* III, 1883, *pp.* 53 *and* 56. — Kolbe. *Arch. f. Naturgesch.* LII, I, 1886, *p.* 181. — Rits. *Notes Leyd. Mus.* XI, 1889, *p.* 102.	China.
Guerinii Hope. *Coleopt. Manual*, III, 1840, *p.* 188. — Olliff. *Cist. Ent.* III, 1883, *pp.* 54, 56 *and* 100 (*without synonyms*); *t.* 3, *f.* 1. — Rits. *Notes Leyd. Mus.* XI, 1889, *p.* 105.	Travancore.
guineensis Rits. *Notes Leyd. Mus.* XI, 1889, *p.* 108.	Assinia.
immaculata Rits. *Ann. Mus. Civ. Genova*, XXX, 1891, *p.* 895.	Burma.
Kolbei Rits. *Notes Leyd. Mus.* XI, 1889, *p.* 103. — id. *Ann. Mus. Civ. Genova*, XXX, 1891, *p.* 889.	China.
laevigata Oberth. *Coleopt. Novit.* I, 1883, *p.* 59. — Olliff. *Cist. Ent.* III, 1884, *p.* 100. — *Aid Ident. Ins.* *t.* 144, *f.* 1.	Darjeeling.

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[1] A very badly drawn figure of this species is published on plate 133 (fig. 2) of Waterhouse's Aid to the Identification of Insects. — If the larva described and figured by Sidney Olliff (Cist. Ent. III, p. 52; pl. 3, f. 8) belongs to this or to the foregoing species I cannot say, Mr. Lewis having captured both species.

longipes Rits. *Notes Leyd. Mus.* XI, 1889, *p.* 101.	Sikkim.
notata Rits. *Ann. Mus. Civ. Genova*, XXX, 1891, *p.* 900.	Burma.
Oberthüri Rits. *Notes Leyd. Mus.* XI, 1889, *p.* 100.	Darjeeling.
ocellata Rits. *Notes Leyd. Mus.* III, 1881, *p.* 79. — id. *l. c.* XI, 1889, *p.* 105.	Java.
pusilla Oberth. *Coleopt. Novit.* I, 1883, *p.* 60. — Olliff. *Cist. Ent.* III, 1884, *p.* 101. — *Aid Ident. Ins. t.* 144, *f.* 2.	Darjeeling.
rotundata Rits. *Ann. Mus. Civ. Genova*, XXX, 1891, *p.* 891.	Burma.
scintillans Olliff. *Cist. Ent.* III, 1884, *p.* 99.	Java.
semifulva Rits. *Notes Leyd. Mus.* III, 1881, *p.* 80. — Olliff. *Cist. Ent.* III, 1883, *p.* 57. — *Aid Ident. Ins. t.* 153, *f.* 4.	„
serratipennis Rits. *Ann. Mus. Civ. Genova*, XXX, 1891, *p.* 890.	Burma.
Servillei Hope. *Coleopt. Manual*, III, 1840, *p.* 187; *t.* 3, *f.* 4. — Rits. *Notes Leyd. Mus.* XI, 1889, *p.* 100.	Poonah.
sinensis Olliff. *Cist. Ent.* III, 1883, *p.* 54; *t.* 3, *f.* 3.	China.
thibetana Westw. *Ann. a. Mag. Nat. Hist.* VIII, 1842, *p.* 123 1)). — Rits. *Stett. Ent. Zeit.* 1876, *p.* 19. — Olliff. *Cist. Ent.* III, 1883, *pp.* 54 *and* 56. — Rits. *Notes Leyd. Mus.* XI, 1889, *p.* 110.	Simlah.
Mellii Westw. *Cab. Orient. Ent.* 1848, *p.* 86; *t.* 41, *f.* 8. — Rits. *Notes Leyd. Mus.* XI, 1889, *p.* 110.	
Vandepolli Rits. *Notes Leyd. Mus.* XIII, 1891, *p.* 197.	Borneo.

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1) Published in October 1841.

Vigorsii Mac L. *Annul. Javan.* 1825, *p.* 43; *t.* 1, *f.* 9; *Ed. Lequien,* 1833, *p.* 152; *t.* 5, *f.* 4. — *Genera des Coléopt. Atlas,* *t.* 131, *f.* 2. Java.

var. Rits. *Ann. Mus. Civ. Genova*, XXX, 1891, *p.* 885. — id. *Notes Leyd. Mus.* XIII, 1891, *p.* 197, *note.* Labuan.

SUMMARY OF THE PRINCIPAL DIVISIONS, WITH REFERENCE TO THE PAGES.

p. 223. I. Base of elytra coloured as apex.
  A. Elytra with four convex flavous spots.
    a. Pronotum rugose, with raised patches.
      α. Elytra very regularly punctate striate all over.
p. 224. *β.* Elytra punctured in rows near the suture, the remaining portion irregularly punctured.
p. 226. *b.* Pronotum more finely and evenly punctured, without raised patches.
      α. Prosternum entirely fulvous.
p. 227. *β.* Prosternum fulvous in the middle, lateral portions metallic green.
p. 228. B. Elytra without flavous spots.
II. Base of elytra fulvous, apex metallic green or black.
  A. Apical portion of elytra metallic green; pronotum entirely fulvous. (Asiatic species).
  B. Apical portion of elytra black; pronotum fulvous at the sides, black along the middle. (African species).

Leyden Museum, August 1891.